WHAT IS CLAIMED IS:

1. A 2 to n divider with integrated optics, where n is an integer greater than or equal to 2, including at least one 2 to 2 optical divider element in a substrate, said divider element comprising:

a first and a second guide with widths equal to W1 and W2 respectively, said divider element adapted to divide an input light wave input into one of the first and second guides, into a first and second output wave, said first and second output wave transported by the first and second guides respectively;

wherein said first and second guides each comprise at least three parts:

a first part, of a first coupling type, wherein the first and second guides are progressively separated by smaller distance proceeding from input ends thereof, to a distance Dc that is not zero and is less than a threshold distance Ds, said distance Ds corresponding to the minimum distance starting from which the input light wave input into one of the first and second guides can be at least partly coupled into the other guide,

a second part, of a second coupling type, with a coupling length Lc, along which said first and second guides are substantially parallel to each other and are distant from each other by the value Dc, and

a third part, of the first coupling type, in which the first and second guides are progressively separated by a longer distance starting from the value Dc until they are separated by a value of more than Ds,

wherein the values Dc, Lc, W1 and W2 are selected so as to obtain an achromatic divider element at divider operating wavelengths, and the values Dc and Lc are selected so that the first coupling type and the second coupling type vary inversely with said wavelengths.

2. The divider according to claim 1, wherein the first and second guides of the 2 to 2 divider element are single mode.

3. The divider according to claim 1, wherein the substrate is glass and the first and second guides are made by ion exchange in the substrate.

4. The divider according to claim 1, wherein the first and the second guides have widths W1 and W2, respectively, such that the 2 to 2 divider element is achromatic in operational spectral windows from 1260 to 1360 nm and from 1480 to 1660 nm.

5. The divider according to claim 1, wherein distances between the first and second guides vary symmetrically.

6. The divider according to claim 1, wherein the value Dc is less than or equal to the value Dx, wherein Dx corresponds to a distance separating the first and second guides at which coupling between said guides changes from coupling in which longer wavelengths are preferentially coupled to coupling in which shorter wavelengths are preferentially coupled.

7. The divider according to claim 1, wherein in the first and third parts of the 2 to 2 divider element, the first and second guides are curved with a radius $R \geq Rc$, or according to a sinusoidal function with a minimum radius of curvature $R \geq Rc$, where the value Rc is defined as a critical radius of curvature above which there are substantially no curvature losses at a highest operating wavelength.

8. The divider according to claim 7, wherein $R = Rc$.

9. The divider according to claim 1,

wherein the divider element operates in 1260-1360 nm and 1480-1660 nm spectral windows and has a division ratio CR equal to 0.5,

wherein the widths W1 and W2 are selected to vary from 1.6 μm to Wc,

wherein the distance Dc varies from 0.6 μm to 2.6 μm and the length Lc varies from 0 μm to 450 μm, where Wc is the maximum width for which the first and second guides are single mode for said spectral windows.

10. The divider according to claim 1, wherein n is greater than 2, and said divider comprises a 2 to 2 optical divider element and (n – 2) 1 to 2 cascaded divider elements such that the divider comprises two inputs corresponding to the first and second guides of the 2 to 2 divider element, and n outputs.

11. The divider according to claim 10, wherein the (n – 2) 1 to 2 divider elements are selected from the group consisting of Y couplers, junctions and combinations thereof.